

IN THE CLAIMS:

Please amend the claims as follows:

1. (Currently Amended) Droplet deposition apparatus comprising:

a fluid chamber having an actuator means actuatable by electrical signals to effect ejection of droplets from the fluid chamber through a nozzle;

a drive circuit means for supplying the electrical signals to the actuator mans;

and

a conduit means for conveying droplet fluid to and from said fluid chamber, said drive circuit means being in substantial thermal contact with said conduit means so as to transfer a substantial part of the heat generated in said drive circuit to said droplet fluid.

2. (Currently Amended) Apparatus according to Claim 1 comprising a first conduit means for supplying droplet fluid to said fluid chamber and a second conduit means for leading droplet fluid from said fluid chamber.

3. (Currently Amended) Droplet deposition apparatus comprising:

a fluid chamber having an actuator actuatable by electrical signals to effect ejection of droplets from the fluid chamber through a nozzle;

a drive circuit for supplying the electrical signals to the actuator; and

a conduit for conveying droplet fluid to and from said fluid chamber, said drive circuit being in substantial thermal contact with said conduit so as to transfer a substantial part of the heat generated in said drive circuit to said droplet fluid;

where said conduit comprising a first conduit for supplying droplet fluid to said fluid chamber and a second conduit for leading droplet fluid from said fluid chamber;

~~Apparatus according to Claim 2, wherein said drive circuit means is thermally connected to the second conduit means.~~

4. (Currently Amended) Droplet deposition apparatus comprising:
a fluid chamber having a actuator actuatable by electrical signals to effect
ejection droplets from the fluid chamber through a nozzle; and
a drive circuit for supplying the electrical signals to the actuator; said device
circuit means in substantial thermal contact with said conduit so as to transfer a
substantial part of the heat generated in said drive circuit to said droplet fluid;

~~Apparatus according to Claim 1, wherein the drive circuit is incorporated within an integrated circuit package of substantially cuboid form in which at least some of the faces of which are rectangles each having a surface area, a face other than that face having the smallest surface area being arranged so as to lie substantially parallel to the direction of fluid flow in that part of the conduit closest to said face, and to be in substantial thermal contact with the fluid.~~

5. (Original) Apparatus according to Claim 4, wherein the face having the greatest surface area is arranged so as to lie parallel to the direction of fluid flow.

6. (Currently Amended) Droplet deposition apparatus comprising:
at least one droplet ejection unit comprising a plurality of fluid chambers, an
actuator ~~means~~ and a plurality of nozzles arranged in a row, said actuator ~~means~~
being actuatable to eject a droplet of fluid from a fluid chamber through a respective
nozzle; and
a support member for said at least one droplet ejection unit, said support
member comprising at least one droplet fluid passageway communicating with said
plurality of fluid chambers and arranged so as to convey droplet fluid to or from said
fluid chambers in a direction substantially parallel to said nozzle row and to transfer a

substantial part of the heat generated during droplet ejection to said conveyed droplet fluid.

7. (Original) Apparatus according to Claim 6, wherein the droplet fluid passageway occupies the majority of the cross-sectional area of the support member.

8. (Original) Apparatus according to Claim 6, wherein the droplet fluid passageway comprises respective portions for conducting droplet fluid into and away from each fluid chamber.

9. (Original) Apparatus according to Claim 6, wherein the cross-section of support member is wider in the direction of ink ejection from the nozzles than in the direction of the nozzle row.

10. (Original) Apparatus according to Claim 6, wherein the support member comprises material having a higher thermal conductivity than said at least one droplet ejection unit.

11. (Original) Apparatus according to Claim 10, comprising means for attaching said at least one droplet ejection unit to the support member in order to substantially avoid transferal of thermal deformation of the support member to said at least one droplet ejection unit.

12. (Original) Apparatus according to Claim 6, comprising a plurality of said droplet ejection units, the support member supporting the droplet ejection units side by side in the direction of the nozzle rows, the support member comprising at least one droplet fluid passageway communicating with at least two of said ejection units and arranged so as to convey droplet fluid to or from said ejection units in a direction substantially parallel to said nozzle rows and to transfer a substantial part of the heat generated during droplet ejection to said conveyed droplet fluid.

13. (Currently Amended) Droplet deposition apparatus comprising:

a fluid chamber, at least part of which is formed from a first material having a first coefficient of thermal expansion, said chamber being associated with an actuator means actuatable to eject a droplet from the chamber and having a port for the inlet of droplet fluid thereto;

a support member for said fluid chamber and including a passageway for supply of droplet liquid to said port, the support member being defined at least in part by a second material having a second coefficient of thermal expansion greater than said first coefficient; and

means for attaching the fluid chamber to the support member in order to substantially avoid transfer of thermal deformation of the support member to said fluid chamber.

14. (Original) Apparatus according to Claim 13, wherein the attachment means comprises resilient bonding means for bonding the fluid chamber to the support member.

15. (Original) Apparatus according to Claim 13, wherein the or each fluid chamber comprises a channel formed in a body of piezoelectric material and closed by a cover member substantially thermally matched to the piezoelectric material.

16. (Original) Apparatus according to Claim 15, wherein ink supply ports are formed in said cover.

17. (Original) Apparatus according to Claim 15, wherein at least one ink ejection nozzle is formed in said body of piezoelectric material.